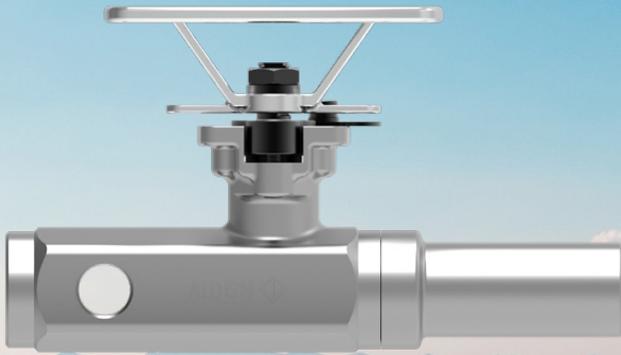




# Instrument Ball Valve

Material & Engineering Specifics



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# CHAODA INSTRUMENT BALL VALVE

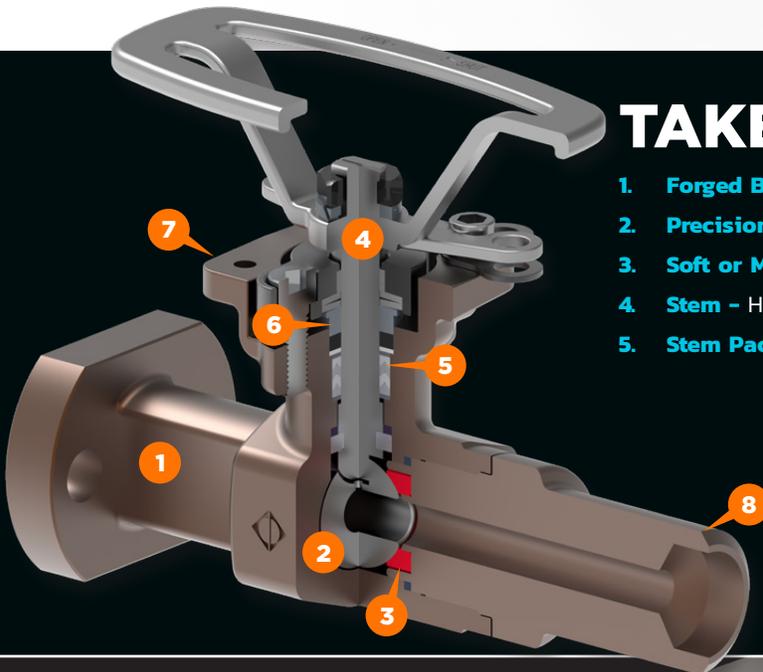
The highest quality and best value.

The Chaoda Instrument Ball Valves are specifically engineered to create the highest quality valves at a competitive price. Let Chaoda be your IBV of choice, today and every day.



## Design Features

- Many End Connections Available
- Blowout-Proof Stem
- API 641 Compliant for Low-Emission Service
- High-Strength Forged Body
- API 607 Fire-Safe Design
- Both Soft- and Metal-Seated Available
- ISO Mounting Flange
- Oval Safety Handle
- Seal-welded Body Construction
- Self-Relieving Seat Available
- Adjustable Live-Loaded Packing
- Designed In Accordance With API 608

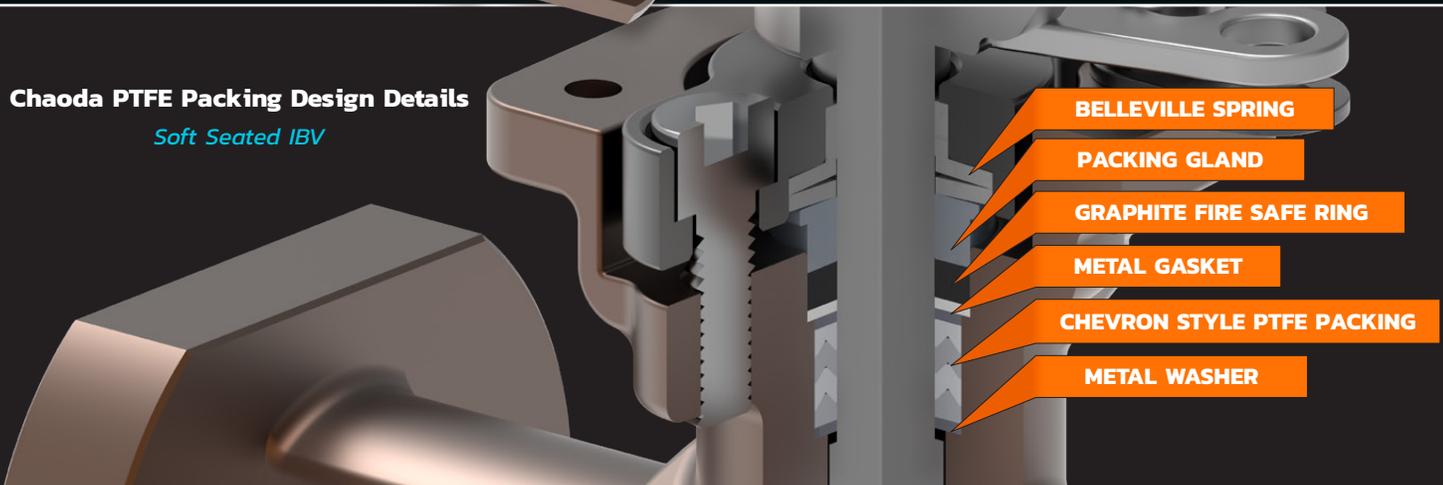


## TAKE A LOOK INSIDE

1. **Forged Body** - Provides Structural Integrity
2. **Precision Machined Ball** - Maximized sealing surface for reliable isolation.
3. **Soft or Metal Seat** - For a perfect seal.
4. **Stem** - High strength for maximum safety.
5. **Stem Packing** - Provides Low-E sealing per API 641.
6. **Packing Gland and Follower** - Provide adjustments for stem sealing ability.
7. **ISO Mounting Flange** - Standardized to fit most actuation mounting.
8. **End Connections** - I-Flange x BW are shown, other designs available.

### Chaoda PTFE Packing Design Details

*Soft Seated IBV*



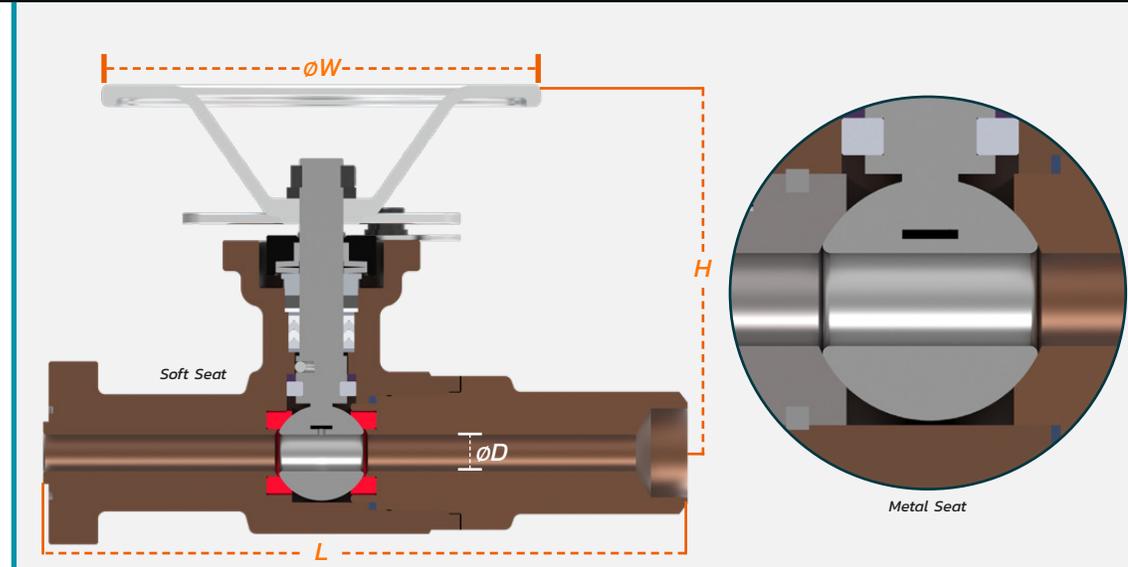
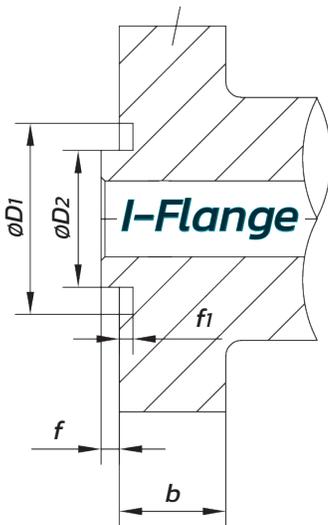
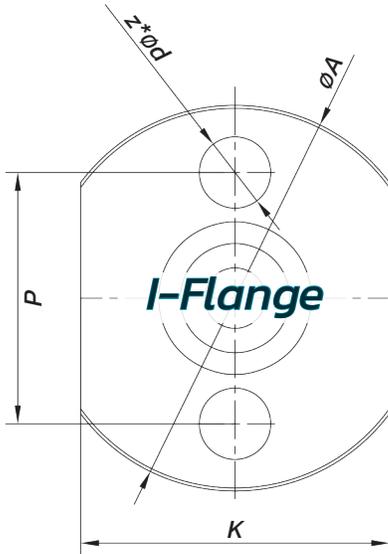


# IBV MEASUREMENTS

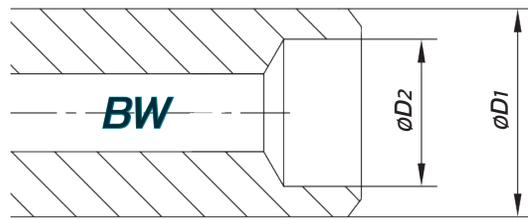
Chaoda offers an optional HVOF coated metal seated IBV for critical service conditions. A unique technique has been employed for the ball grinding, which makes the ball surface reach a perfect roundness. This makes the ball and seat seal exceed the standard requirements.



Each soft and metal seat valve is factory acceptance tested per API Standard 598, with no visible seat leakage. Partial sizes shown. Other sizes and classes available as standard.



IBV OVERALL DIMENSIONS - MM(IN)					
PRESSURE CLASS	END CONNECTIONS	L SOFT/METAL SEATED	D	H	W
CLASS 600 CLASS 900	3/4" MSW * 1/2" FNPT	148(5.8)/166(6.5)	10(0.4)	100(3.9)	120(4.7)
	3/4" BW * 1/2" FNPT	148(5.8)/166(6.5)			
	1" MSW * 3/4" I-FLANGE	201(7.9)/201(7.9)			
	1" BW * 3/4" I-FLANGE	201(7.9)/201(7.9)			
	3/4" I-FLANGE * 3/4" I-FLANGE	176(6.9)/186(7.3)			
	1" MSW * 3 x 1/2" FNPT	200(7.9)/200(7.9)			
	1" BW * 3 x 1/2" FNPT	200(7.9)/200(7.9)			
	3/4" BW * 3/4" I-FLANGE	176(6.9)/176(6.9)			
	1/2" FNPT * 1/2" FNPT	100(3.9)/-			



END CONNECTIONS DIMENSIONS - MM(IN)									
END	D1	D2	A	b	f	f1	z*d	K	P
3/4" MSW	26.7(1.05)	-	-	-	-	-	-	-	-
1" MSW	33.3(1.31)	-	-	-	-	-	-	-	-
3/4" BW (SCH 80)	26.7(1.050)	18.88(0.742)	-	-	-	-	-	-	-
1" BW (SCH 80)	33.4(1.315)	24.3(0.957)	-	-	-	-	-	-	-
3/4" I-FLANGE (IEC 61518 FORM A)	25.2(0.99)	18(0.71)	63.5(2.50)	14(0.55)	2.4(0.09)	1.8(0.07)	2*11.8(0.46)	50.8(2)	41.3(1.63)

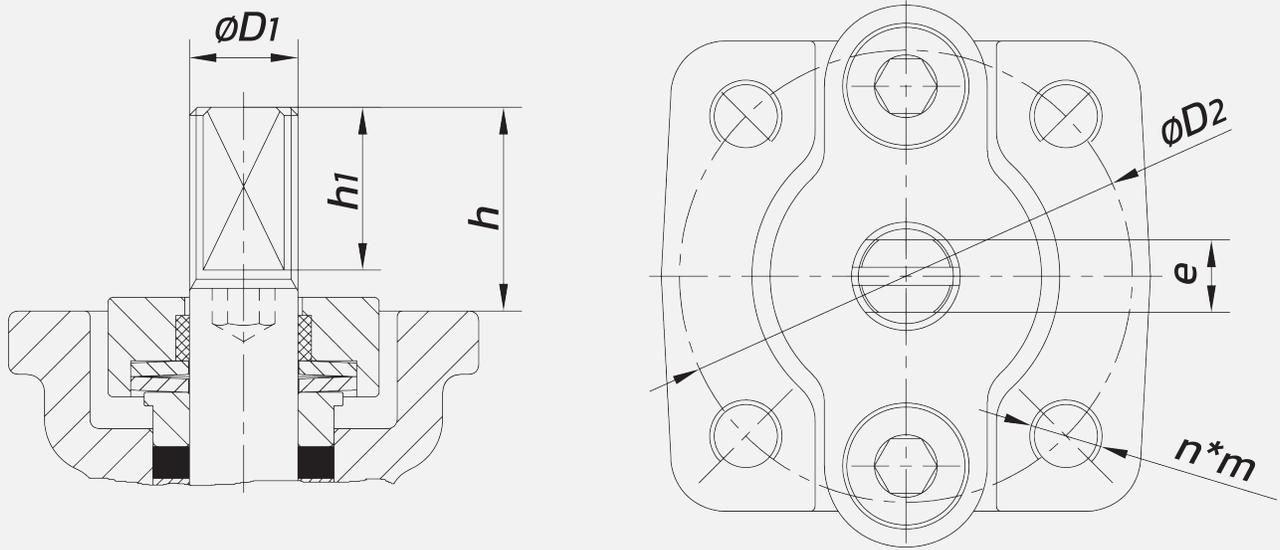
IBV TORQUE		
CLASS	SEAT	TORQUE N.M(IN.LB)
900	RPTFE	14 (124)
900	PTFE	14 (124)
600	PTFE(Self-Relieving)	14 (124)
900	F316/F316L+CrC	21 (186)
900/1500	PEEK	18 (159)

TOP MOUNTING FLANGE DIMENSIONS - MM(IN)  
ISO 5211 F05

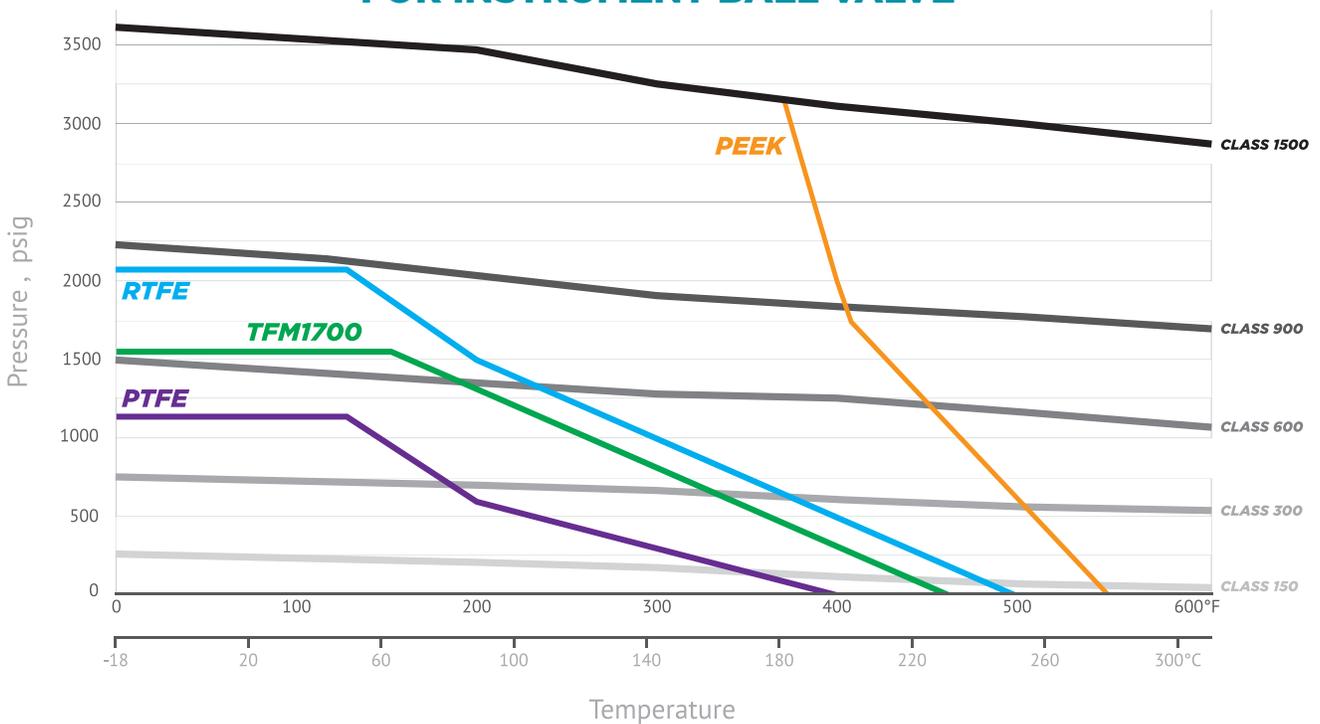
h	h1	D1	D2	e	n*m
22.5(0.89)	18(0.71)	M12X1.5	50(1.97)	8(0.31)	4*M6

These measurements reference the diagrams below.

ISO 5211 F05 MOUNTING FLANGE



PRESSURE & TEMPERATURE RATINGS  
FOR INSTRUMENT BALL VALVE





**BODY MATERIAL**

- A** = FORGED A105 (NORMALIZED)
- B** = FORGED A182 F316
- C** = FORGED A182 F316L
- D** = ALLOY 20
- E** = MONEL 400
- F** = C276 (B564 N10276)
- G** = FORGED A 182 F316/F316L

**PRESSURE CLASS**

- 06** = 600
- 09** = 900
- 15** = 1500

**END 1 SIZE**

- 01** = 1/4"      **05** = 1"
- 02** = 3/8"    **06** = 1 1/4"
- 03** = 1/2"     **07** = 1 1/2"
- 04** = 3/4"     **08** = 2"

**IB**

**09**

**A**

**03**

**B**

**03**

**PRODUCT NAME**

**IB** = INST BALL VALVE

**END CONNECT 1**

- A** = FEMALE THREADED
- B** = MALE THREADED
- C** = FEMALE SOCKET WELD
- D** = MALE SOCKET WELD
- E** = BUTT WELD (\*)
- F** = I-FLANGE MALE (DOW)
- FA** = I-FLANGE MALE (IEC 61518 FORM A)

**END CONNECT 2**

- A** = FEMALE THREADED
- B** = MALE THREADED
- C** = FEMALE SOCKET WELD
- D** = MALE SOCKET WELD
- E** = BUTT WELD (\*)
- F** = I-FLANGE MALE (DOW)
- FA** = I-FLANGE MALE (IEC 61518 FORM A)
- G** = 1/2" 3 PORT GAUGE CONNECTION

**END 2 SIZE**

- 01** = 1/4"      **05** = 1"
- 02** = 3/8"    **06** = 1 1/4"
- 03** = 1/2"     **07** = 1 1/2"
- 04** = 3/4"     **08** = 2"

# HOW TO ORDER INSTRUMENT BALL VALVE

This unique Valve Figure Number system is arranged to cover the basic valve design features. When ordering, please include this basic Figure Number and add any additional design requirements and features in a complete valve description. Valve designs, materials, trims and other features are not limited to those listed below.

\* Customer to advise pipe schedule at time of order placement.

\*\* If required Ball/Stem material is not listed use "ST" and specify desired materials in valve description.

(CDUSA Ordering Rev. 2 Date 11/08/2019)

**SEAT MATERIAL**

**SOFT SEAT**

- P** = PTFE
- R** = MPTFE(TFM 1700)
- PE** = PEEK
- CP** = CARBON FILLED PTFE (RTFE)
- SR** = TFM 1700 SELF-RELIEVING

**METAL SEAT**

- CR** = CHROME CARBIDE

**OPTIONAL**

- A** = CHLORINE CLEANED
- B** = OXYGEN CLEANED
- C** = PHOSGENE CLEANED

**A**

**02**

**CP**

**G**

**A**

**A**

**BALL/STEM MATERIAL**

- 01** = 316
- 02** = 316+316L DUAL CERT.
- 2L** = 316L
- 05** = ALLOY 20
- 06** = ALLOY 20/F316L
- 08** = HASTELLOY C
- 10** = MONEL
- 16** = 316 /XM-19
- 17** = 316+316L DUAL CERT. /XM-19
- 25** = 316L/XM-19

**STEM SEAL**

- G** = GRAPHITE
- P** = PTFE

**OPERATION**

- A** = OVAL LOCKING HANDLE

**EXAMPLE:** Instrument Ball Valve Class 900, 1/2" Female Threaded X 1/2" Male Threaded, Body A105, Ball/Stem 316/F316L Dual Cert, CFP Seats, Graphite Packing, Oval Locking Handle.

**IB-09-A-03 x B-03-A-02-CP-G-A**

**EXAMPLE:** Instrument Ball Valve Class 900, 1/2" Female Threaded X 3/4" Male Socket Weld, Body A 182 F316, Ball/Stem 316/F316L Dual Cert. RPTFE Seats, Graphite Packing, Oval Locking Handle.

**IB-09-A-03 x D-04-B-02-R-G-A**



**CHAODA VALVE GROUP CO., LTD.**  
 Jiangbei Street, Oubei  
 Yongjia, Zheijang  
 China  
[www.chinavalve.com](http://www.chinavalve.com)



**CHAODA GROUP USA CO., LTD.**  
 10633 West Airport Blvd., Suite 200  
 Stafford, TX 77477  
 T: (832) 939-9944  
 F: (832) 939-9942  
[www.chaodausa.com](http://www.chaodausa.com)

